WHAT IS CLAIMED IS:

1. A method of forming granules, comprising:

mixing particles comprising one or more inorganic materials with particles of a polymeric material;

heating the mixture to a temperature below the melting point of the polymeric material; and

cooling the mixture to form granules.

2. The method of claim 1, further comprising compressing the mixture.

3. The method of claim 2, wherein the compressing comprises increasing the pressure on the mixture to a pressure ranging from about 60 to about 5000 psig.

4. The method of claim 1, further comprising heating the particles of polymeric material prior to mixing.

5. The method of claim 1, further comprising grinding the granules.

6. The method of claim 5, wherein the grinding comprises producing granules having average particle sizes ranging from about 1 mesh to about 200 mesh.

7. The method of claim 1, wherein the polymeric material comprises a high-density polyethylene.

8. The method of claim 7, wherein the high-density polyethylene has a low or zero melting index.

9. The method of claim 1, wherein the inorganic particles are selected from the group consisting of metal oxide particles, silver particles, carbon particles, or zeolite.

10. The method of claim 1, wherein the inorganic particles comprise nanocrystals.

11. The method of claim 1, wherein the inorganic particles comprise metal oxide nanocrystals.

12. The method of claim 1, wherein the inorganic particles have an average particle size ranging from about 20 nm to about 200 microns.

13. The method of claim 12, wherein the inorganic particles have an average particle size ranging from about 20 nm to about 30 microns.

14. The method of claim 12, wherein the inorganic particles have an average particle size ranging from about 20 nm to about 100 nm.

15. The method of claim 1, wherein the particles of polymeric material have an average particle size ranging from about 20 nm to about 200 microns.

16. The method of claim 1, wherein the granules have an average size ranging from about 200 mesh to about 1 mesh.

17. The method of claim 16, wherein the granules have an average size ranging from about 80 mesh to about 20 mesh.

18. The method of claim 1, wherein the granules have an average size ranging from about 10 microns to about 1000 microns.

19. The method of claim 1, wherein the heating of the polymeric particles comprises increasing the temperature of the particles to between about 180 °F and about 600 °F.

20. The method of claim 1, further comprising introducing a core particle of a material different from at least one of said inorganic oxides prior to or concurrently with the heating of the particles of the polymeric material, and further heating the mixture sufficiently to make the polymer at least partially flowable.

21. The method of claim 20, wherein the core particle is selected from the group consisting of carbon, aluminum oxide, zeolite, and mixtures thereof.

22. The method of claim 20, wherein the core particles have an average particle size ranging from about 2 to about 200 mesh.

23. The method of claim 20, wherein the inorganic particles are selected from the group consisting of zirconia, titania, silver, silver oxide, copper oxide, zinc oxide, zeolite, and carbon.

24. The method of claim 20, wherein the inorganic particles are nanocrystals.

25
27. The method of claim 20, wherein the inorganic particles are present in amounts ranging from .0.1 wt% to about 75 wt%, based on the total weight of the granule.

26
29. The method of claim 1, wherein the heating and mixing are conducted in a twin screw compounder.

27
31. The method of claim 1, wherein the heating and mixing are conducted in a fluidized bed.

28
32. The method of claim 3, further comprising grinding the compacted mixture, and wherein the heating is conducted after the compacting and grinding.

29
33. A granulated powder comprising:

inorganic particles having an average size ranging from about 20 nm to about 200 microns in an amount ranging from about 1 wt% to about 75 wt% agglomerated with a low or zero melting index high-density polyethylene binder.

30
34. The granulated powder of claim 33, further comprising core particles having an average particle size ranging from about 2 mesh to about 200 mesh agglomerated with the inorganic particles and the binder.

35. The granulated powder of claim 34, wherein the core particles comprise alumina, zeolite, carbon, or mixtures thereof.

36. The granulated powder of claim 33, wherein the inorganic particles comprise zirconia.

37 The granulated powder of claim 35, wherein the core particles comprise alumina and the inorganic particles comprise zirconia.

38. The granulated powder of claim 35, wherein the alumina is gamma alumina or alpha alumina.

39. A method for reducing the level of contaminants in a fluid, comprising contacting the fluid with granulated powder of claim 33, thereby producing a reduced contaminant fluid.

40. The method of claim 39, wherein the contaminants comprise microbiological organisms, volatile organic compounds (VOC), heavy metals, or mixtures thereof.

41. The method of claim 40, wherein the microbiological organisms comprise bacteria.

42. The method of claim 40, wherein the fluid is air.

43. The method of claim 40, wherein the fluid is a compressed gas

44. The method of claim 43, wherein the compressed gas is CO_2.

45. The method of claim 40, wherein the fluid is water.

46. The method of claim 45, wherein the fluid is wastewater.

47. The method of claim 45, wherein the reduced contaminant fluid is potable water.

48. The method of claim 1, wherein the polymeric material is low-density polyethylene.